

I. AMENDMENT TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of claims in the application. Claims 19, 21, 27-36, 40, 49, 51-53, 57, 60, 62 and 63 are amended. Claims 20, 23, 24, 37-39, 41-44, 46-48, 58, 61, and 64-68 are cancelled. New claims 69-113 are added.

19. (Currently Amended) An apparatus adapted for mounting on a thorax of a patient, for assisting in the application of CPR to the patient, comprising:
 - (a) a means to protect the thorax of the patient mounted on the thorax including a means to stabilize a means for applying compressions;
 - (b) the means for applying compressions removably connected with the stabilizing means;
 - (c) a means for maintaining a substantially downward compression force on the sternum operably connected with the means for applying compressions;
 - (d) a dorsal or back strap having two ends connected around the thorax and to the means for applying compressions; and
 - (e) a means to expand the chest beyond a normal diastole relaxation position.
20. (Cancelled)
21. (Currently Amended) The apparatus according to claim 19 wherein said means to protect the thorax comprises a chest positioner or chest pad and said stabilizing means is a socket having a base and four sidewalls.
22. (Original) The apparatus according to claim 19 wherein said means to expand the chest comprises a recoil spring connected to the means for applying compressions and connected to the dorsal or back strap.
23. (Cancelled)
24. (Cancelled)
25. (Original) The apparatus according to claim 19 wherein the means for applying compressions comprises a motor driven compression device.
26. (Original) The apparatus according to claim 19 further comprising a means for maintaining a preferred stroke rate operably connected with the means for applying compressions.

27. (Currently Amended) An apparatus for assisting with the administration of CPR to a patient comprising:
 - (a) a chest positioner unit conformable to the shape of a patient's chest to position the apparatus on the sternum;
 - (b) a strap having two ends ~~for wrapping around the chest wherein the strap passes behind the back of the patient~~;
 - (c) a chest compression device ~~connected~~ removably coupled with the chest positioner unit, said device having arms connected with the device and extending laterally from each side of the device, each said arm having a first end pivotally connected with the device and a second end ~~connected that connects~~ with one end of said strap; and
 - (d) a control assembly operably connected with the chest compression device to actuate the chest compression device to deliver chest compressions ~~at a preferred force substantially downward on the sternum~~.
28. (Currently Amended) The apparatus ~~of according to~~ claim 27 wherein the chest positioner unit comprises:
 - (a) a sternal pad that rests on the sternum of the patient; and
 - (b) a socket for removably connecting with the chest compression device; and
 - (c) ~~an elastic sheet having dimensions larger than the sternal pad or the socket and mounted between the sternal pad and the socket.~~
29. (Currently Amended) The apparatus according to ~~of~~ claim 27 wherein the chest positioner unit is radiolucent.
30. (Currently Amended) The apparatus according to ~~of~~ claim 27 wherein the chest positioner unit is electrically insulating.
31. (Currently Amended) The apparatus according to ~~of~~ claim 27 wherein the chest compression device is electrically actuated by the control assembly.
32. (Currently Amended) The apparatus according to ~~of~~ claim 27 31 wherein electrical actuation of the chest compression device winds, pauses, and releases the strap within the chest compression device moving moves the arms of the device from a rest position to an active position causing ~~the strap wrapped around the chest of the patient to tighten and~~ the chest compression device to apply a downward force on the sternum to deliver thereby delivering an effective chest compression.
33. (Currently Amended) The apparatus according to ~~of~~ claim 27 wherein the chest compression device contains a pressure sensor.

34. (Currently Amended) The apparatus according to ~~of~~ claim 27 wherein the control assembly further actuates the chest compression device to deliver chest compressions at a preferred stroke rate.
35. (Currently Amended) The apparatus according to ~~of~~ claim 27 wherein the strap contains a rigid central section located at the back of the patient when the apparatus is employed.
36. (Currently Amended) The apparatus according to ~~of~~ claim 27 wherein the strap is connected with the chest compression device using tension-indicating hooks.
37. (Cancelled)
38. (Cancelled)
39. (Cancelled)
40. (Currently Amended) An apparatus for administering CPR to a patient comprising:
 - (a) a chest device attached to ~~for resting on~~ the chest of the patient;
 - (b) a chest compression device removably connected with the chest device; and
 - (c) a control assembly operably connected with the chest compression device to actuate the chest compression device to deliver chest compressions substantially perpendicular to the chest of the patient ~~downward into the chest at a preferred force and/or at a preferred stroke rate~~,wherein the chest compression device is fixed in position relative to the chest of the patient.
41. (Cancelled)
42. (Cancelled)
43. (Cancelled)
44. (Cancelled)
45. (Original) The apparatus of claim 40, wherein the chest compression device is held in a fixed position relative to the chest of the patient with one or more straps.
46. (Cancelled)
47. (Cancelled)
48. (Cancelled)

49. (Currently Amended) An apparatus for assisting with the administration of CPR to a patient comprising:
 - (a) a chest plate to position the apparatus on the sternum;
 - (b) a manual chest compression device having a palm grip at a first end and a base at a second end wherein the base is capable of being ~~connected with~~ removably coupled with the chest plate;
 - (c) an electronic display module connected with the chest plate and to the chest compression device to provide signals to a user.
50. (Original) The apparatus of claim 49 wherein the base of the manual chest compression device contains a pressure sensor providing a signal to the electronic display module providing feedback on applied force to the user.
51. (Currently Amended) The apparatus of claim 50 ~~49~~ wherein the electronic display module contains a running light display connected with the pressure sensor to display an amount of applied force from 20 to 100 pounds.
52. (Currently Amended) The apparatus of claim 50 ~~49~~ wherein ~~the pressure sensor is operably connected to a counter to count counts~~ the number of compressions ~~wherein the counter provides a signal to~~ provided and signals the user when a preset number of compressions is reached.
53. (Currently Amended) The apparatus of claim 49 wherein the base of the manual chest compression device contains a plurality of microswitches arrayed on ~~the edges of~~ the base and operably connected with the electronic display module so that compression activation of one or more switches provides a feedback signal to the user to indicate a tilt condition of the applied force.
54. (Original) The apparatus of claim 49 wherein the electronic display module contains a metronome providing a signal to the user to indicate proper timing of compressions.
55. (Original) The apparatus of claim 54 wherein the metronome is adjustable.
56. (Original) The apparatus of claim 54 wherein the metronome is capable of providing 60, 80, or 100 signals per minute.
57. (Currently Amended) The apparatus of claim 49 wherein the signals provided to a user are chosen from the group consisting of audible and visual.
58. (Cancelled)
59. (Original) The apparatus of claim 49 wherein the electronic display module contains a data output to allow interface with a computer.

60. (Currently Amended) The apparatus of claim 49 wherein the electronic display module is positioned between the chest plate and the palm grip chest compression device in a way that forces the user to get their shoulders up and over the palm grip in order to visualize the electronic display.
61. (Cancelled)
62. (Currently Amended) The apparatus of claim 49 wherein the manual chest compression device is stably removably connected with the chest plate via a socket integrated with the chest plate.
63. (Currently Amended) An apparatus for assisting with the administration of CPR to a patient comprising:
 - (a) a chest plate to position the apparatus on the sternum;
 - (b) a manual chest compression device having a palm grip at a first end and a base at a second end wherein the base is capable of being connected with an electronic display module and the chest plate;
 - (c) ~~(b)~~ an electronic display module to provide signals to a user ~~located above and connected with the chest plate compression device and positioned in a manner that forces the user to position his or her shoulders directly over the palm grip in order to visualize the display so that the module is visible to a user during operation; and~~
 - (e) ~~a manual chest compression device having a palm grip at a first end and a base at a second end wherein the base is capable of being connected with the electronic display module and the chest plate;~~
 - (d) a pressure sensor connected with the base of the chest compression device and the electronic display module to provide a signal to the user indicating the applied force of compressions;
 - (e) ~~a plurality of microswitches arrayed on said base and operably connected with the electronic display module so that compression activation of one or more switches provides a feedback signal to the user to indicate a tilt condition of the applied force; and~~
 - (f) ~~a metronome to prompt the user with a proper compression rate.~~
64. (Cancelled)
65. (Cancelled)
66. (Cancelled)
67. (Cancelled)

68. (Cancelled)
69. (New) The apparatus according to claim 19 wherein the means for applying compressions comprises a hand driven augmentation device.
70. (New) The apparatus according to claim 19 further including a means for stabilizing the abdomen during chest compressions.
71. (New) The apparatus according to claim 19 wherein the dorsal or back strap is chosen from the group consisting of flexible, semi-flexible, and rigid.
72. (New) The apparatus according to claim 19 wherein the means to protect the thorax of the patient is mounted on the thorax by a means chosen from the group consisting of adhesive or suction.
73. (New) The apparatus according to claim 19 wherein said dorsal or back strap has a rigid central section positioned at the back of the patient when the apparatus is employed.
74. (New) The apparatus according to claim 19 wherein said dorsal or back strap is connected with the chest compression device using tension-indicating hooks.
75. (New) The apparatus according to claim 25 wherein said motor pauses between compressing and releasing the compression means.
76. (New) The apparatus according to claim 31 wherein electrical actuation of the chest compression device pivots the arms up, forcing the chest compression unit substantially downward into the chest of the patient, pauses, and then releases the arms thereby releasing the compressive force on the sternum of the chest.
77. (New) The apparatus of claim 27 wherein the control assembly further actuates the chest compression device to deliver chest compressions at a preferred force.
78. (New) The apparatus of claim 27 further comprising a recoil spring removably connected to the chest compression device and the rigid central section of the strap wherein the recoil spring lifts chest compression device minimizing the weight of the chest compression device on the chest during diastole.
79. (New) The apparatus according to claim 27 further including an abdominal compression device to increase abdominal pressure and force blood from the abdomen into the chest during diastole.
80. (New) The apparatus according to claim 27 further including an abdominal binder to stabilize the abdomen during chest compressions.
81. (New) The apparatus of claim 40 wherein the chest compressions are delivered at a preferred force.

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82. (New) The apparatus of claim 40 wherein the chest compressions are delivered at a preferred stroke rate.
83. (New) The apparatus according to claim 42 further including a motor to actuate the chest compression device.
84. (New) The apparatus according to claim 83 wherein said motor pauses between compressing and releasing the compression means.
85. (New) The apparatus of claim 40 further including arms connected with the chest compression device and extending laterally from each side of the device, each said arm having a first end pivotally connected with the device and a second end that connects to one end of said strap.
86. (New) The apparatus according to claim 85 wherein electrical actuation of the chest compression device moves the arms of the device from a rest position to an active position causing the strap attached to the arms of the chest compression device to tighten and the chest compression device to apply a substantially downward force on the sternum of the patient.
87. (New) The apparatus of claim 45, wherein the strap or straps are removably coupled to the chest compression device.
88. (New) The apparatus according to claim 40 wherein the chest device resting on the chest of the patient is a chest pad with a socket.
89. (New) The apparatus according to claim 88 wherein the chest pad is attached to the patient's chest by a means chosen from the group consisting of adhesive and suction.
90. (New) An apparatus for administering CPR to a patient comprising:
 - (a) a chest compression device removably connected to a chest positioning unit positioned over the sternum of a patient;
 - (b) a control assembly operably connected with the chest compression device to actuate the chest compression device to deliver chest compressions substantially downward into the chest at a preferred force and/or at a preferred stroke rate, wherein the chest compression device is fixed in position relative to the chest of the patient; and
 - (c) an abdominal binder wrapped around the abdomen of a patient.
91. (New) The apparatus according to claim 90 wherein the chest positioner unit comprises a sternal pad that rests on the sternum of the patient and a socket for connecting with the chest compression device.
92. (New) The apparatus of claim 90 further including arms connected with the chest compression device and extending laterally from each side of the device, each

said arm having a first end pivotally connected with the device and a second end that connects to one end of said strap.

93. (New) A method of administering CPR to a patient comprising:
 - (a) attaching a chest positioner unit to the sternum of a patient;
 - (b) removably attaching a chest compression device having two arms pivotally attached to each side of the chest compression device to the chest positioner unit via a socket connection;
 - (c) placing a strap underneath a patient;
 - (d) removably connecting the end or ends of the strap to the arms of the chest compression device to stabilize the system;
 - (e) redirecting and concentrating opposing forces substantially downward into the chest through the arms of the chest compression device; and
 - (f) initiating an actuator that pivots the arms up, forcing the chest compression unit substantially downward into the chest of the patient, pausing, and then releasing the arms thereby releasing the compressive force on the sternum of the chest.
94. (New) A method in accordance with claim 93 further including expanding the chest past its normal relaxation point via a recoil spring.
95. (New) A method in accordance with claim 93 further including increasing abdominal pressure through an abdominal compression device which forces blood from the abdomen into the chest during diastole.
96. (New) A method in accordance with claim 93 further including stabilizing the abdomen during chest compressions through an abdominal binder.
97. (New) A method of administering CPR to a patient comprising:
 - (a) attaching a removable chest pad to the sternum of a patient;
 - (b) removably attaching a manual compression device to the chest pad via a socket connection wherein the manual compression device includes a palm grip that allows a user to quickly position his or her hands for proper compression of the sternum;
 - (c) providing visual and audible feedback on CPR performance via an electronic display module positioned between the palm grip and the chest pad; and
 - (d) forcing a user to properly position his or her shoulders directly over the palm grip in order to visualize the display.

98. (New) A method in accordance with claim 97 further including providing a signal to notify the user if compressions are not directed straight down on the chest.
99. (New) A method in accordance with claim 97 further displaying a proper compressive force target zone to the user on a running light display.
100. (New) A method in accordance with claim 97 further displaying a proper compressive force target zone to the user on a running light display.
101. (New) A method in accordance with claim 97 further increasing abdominal pressure and forcing blood from the abdomen into the chest during diastole with an abdominal compression device.
102. (New) A method in accordance with claim 97 further stabilizing the abdomen during chest compressions with an abdominal binding device.
103. (New) A method in accordance with claim 97 further signaling to the user to provide a rescue breath when a preset number of compressions is reached by the counter.
104. (New) The apparatus according to claim 49 further including an abdominal compression device to increase abdominal pressure and force blood from the abdomen into the chest during diastole.
105. (New) The apparatus according to claim 49 further including an abdominal binder to stabilize the abdomen during chest compressions.
106. (New) The apparatus of claim 49 wherein the chest plate contains letters and/or symbols to prompt the user on the steps of CPR.
107. (New) The apparatus of claim 49 wherein the chest plate disperses the compression force across the sternum and the costal cartilages.
108. (New) The apparatus of claim 63 wherein the chest plate is adhesive on one side.
109. (New) The apparatus of claim 63 wherein the chest plate is attached to the chest by suction.
110. (New) The apparatus of claim 63 wherein the pressure sensor is operably connected to a counter to count the number of compressions wherein the counter provides a signal to the user when a preset number of compressions is reached.
111. (New) The apparatus of claim 110 wherein the counter will signal the user to provide a rescue breath when a preset number of compressions is reached.
112. (New) The apparatus of claim 110 wherein the counter is displayed numerically to the user.

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113. (New) The apparatus of claim 110 wherein the counter display will not display the next compression number unless the user completely releases pressure off chest.